

2/2 021

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0131167

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SEVEN PATIENTS WITH ADDISON'S DISEASE (34-49 YR OLD) WERE EXAMINED. THE STATE OF THE CARDIOVASCULAR SYSTEM WAS STUDIED MECHANOCARDIOGRAPHICALLY ACCORDING TO SAVITSKY AND POLYCARDIOGRAPHY WAS USED TO DETERMINE THE PHASIC STRUCTURE OF THE CARDIAC CYCLE. THE CIRCULATION VOLUMES WERE SHARPLY INCREASED WITH THE PERIPHERAL RESISTANCE BEING CUT DOWN ALMOST IN HALF. A REDUCED CONTRACTILE FUNCTION OF THE MYOCARDIUM PROBABLY OCCURS. THE EFFECT OF ADMINISTRATION OF EPINEPHRINE, ACTH AND HYDROCORTISONE SOLUTIONS ON THE HEMODYNAMICS WITH STUDIED IN 15 PRACTICALLY HEALTHY SUBJECTS TO IDENTIFY MECHANISMS GOVERNING CHANGES AT THE LEVEL OF THE CARDIOVASCULAR SYSTEM IN PATIENTS WITH ADDISON'S DISEASE. A COMPARISON OF THE DATA SUGGESTS THAT ACTH STIMULATED NOT ONLY THE SUPRARENALS, BUT ALSO THEIR MEDULLARY SUBSTANCE. THE ELEVATED ACTH SECRETION IN ADDISON'S DISEASE PROVOKED BY LOW BLOOD GLUCOCORTICOID CONCENTRATION LEADS, WITH A INTACT MEDULLARY LAYER IN THE ADRENALS, TO AN INTENSIFIED PRODUCTION OF CATECHOLAMINES. THE ACTION OF THE LATTER MAY EXPLAIN HEMODYNAMIC CHANGES AND REDUCED CONTRACTILE FUNCTION OF THE MYOCARDIUM IN THE DISEASE UNDER DISCUSSION.

FACILITY: DEP. FAC. THER., S. M. KIROV MIL.-MED. ACAD., Leningrad, USSR.

UNCLASSIFIED

1/2 009 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--PLATINUM (II) DIMETHYL SULFOXIDE COMPLEXES -U-
AUTHOR--KUKUSHKIN, YU.N., VYAZMENSKIY, YU.E. ✓
COUNTRY OF INFO--USSR
SOURCE--ZH. NEORG. KHIM. 1970, 15(2), 480-6
DATE PUBLISHED-----70
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TOPIC TAGS--PLATINUM COMPLEX, SULFUR OXIDE, CHEMICAL SYNTHESIS, PYRIDINE,
AMMONIA
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CIRC ACCESSION NO--AP0103963
UNCLASSIFIED

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CIRC ACCESSION NO--AP0103963

UNCLASSIFIED

PROCESSING DATE--11SEP70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. K(PTLBR SUB3) (L EQUALS ME SUB2 ,
SO) WAS PREPD. BY THE REACTION OF K BROMOPLATINATE WITH ME SUB2 SO OR
WITH (PTL SUB2 BR SUB2) OR BY THE REACTION OF (PTL SUB2 BR SUB2) WITH
KBR. K(PTLBR SUB3) REACTS WITH EQUIMOLAR CONC. OF AMINE TO GIVE TRANS
(PTALBR SUB2), WHERE A EQUALS NH SUB3, PYRIDINE, MENH SUB2, OR ETNH
SUB2. CIS (PTALBR SUB2) (A EQUALS PYRIDINE OR NH SUB3) FORMED WHEN L
REACTED WITH CORRESPONDING MONOAMINE COMPLEXES. TRANS (PT(NH SUB2
MEILBR SUB2)) AND TRANS (PT(NH SUB2 ETILBR SUB2)) ISOMERIZED ON HEATING TO
THE CIS STRUCTURES. THE RESULTS IMPLY A HIGH TRANS EFFECT OF
COORDINATED ME SUB2 SO.

UNCLASSIFIED

Nickel

USSR

UDC 669.24.492

BONDARENKO, B. I., PEKACH, V. F., SHAMPO, E. A., VYAZ'MIN, O. A., YEVLANOV, S. F., and GOLGER, S. P.

"Fluidization of Industrial Nickel Powder"

Moscow, Tsvetnyye Metally, No 5, May 70, p 24

Abstract: The results of an experimental determination of the fluidization onset rate of nickel powder containing 5-6% Cu and 3% Fe, with 2010 kg/l bulk density and apparent weight of 5.36 kg/l, for various powder fractions are presented in tabular form, together with data on Reynolds (Re) and Fedorov numbers calculated for each test condition. An equation for determining the first critical rate of fluidization onset is derived on the basis of experimental data.

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Nickel

USSR

UDC: 669.243.45

SHAMRO, E. A., VYAZ'MIN, O. A., YEVLANOV, S. P., GOLGER, S. P., BONDARENKO, B. I., and PEKACH, V. F.

"Reduction Kinetics of Commercial Nickel Oxide in a Fluidized Bed Using Gas Mixtures as Reducing Agents"

Moscow, Tsvetnyye Metally, No. 12, Dec 70, pp 10-13

Abstract: Results of laboratory studies are presented on the reduction of sintered nickel oxide in a fluidized bed. The experiments were conducted in quartz reactors, 35-38 mm in diameter, with external electric heating. The degree of reduction of the material was measured by weight differences between the initial and reduced samples. Allowances were made for weight losses related to natural analysis of visual observations of the quality of fluidization and data on the beginning of conglomeration of the material, providing an optimum value of fluidization of $w_{fl} = 2$. The experimental.

USSR

SHAMRO, E. A., et al, Tsvetnyye Metally, No. 12, Dec 70, pp 10-13

results on reducing nickel oxide with hydrogen-carbon monoxide ($H_2:CO=1:1$) and hydrogen-methane ($H_2:CH_4=2:1$) mixtures have shown that the reduction capacity of hydrogen-carbon monoxide mixtures depends largely on hydrogen content since hydrogen is chemically more active. In the hydrogen-methane mixture both are fairly active reducing agents. Figures in the original article demonstrate the dependence of the degree of reduction on reduction duration with converted gas at various temperatures and the dependence of the degree of gas utilization on the duration of reduction with hydrogen at various temperatures. The gas utilization efficiency is a linear function of the height of the layer of material being reduced. It was found that the gas utilization efficiency in reduction with converted gas is higher than that with hydrogen.

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USSR

UDC 550.834

KOVALEV, O. I., SHVEDCHIKOV, L. K., and VYAZ'MIN, V. A., All-Union Scientific Research Institute of Geophysical Exploration Methods

"Electrodynamic Seismic Detector"

USSR Authors' Certificate No 363059, Cl. G 01v 1/16, filed 20 Aug 70, published 20 Dec 72 (from Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 3, 1973, p 92)

Abstract: The device contains an electromechanical transducer of the electrodynamic type with a system for removing current from the moving coil to the output terminals through suspending springs, an inert mass suspended on elastic elements of increased linearity and a hermetic-sealing rubber ring. The unique feature of the device is that, to increase the operating reliability of the design, the coil of the seismic detector is suspended on three iris springs attached to the coil ends. At one end of the coil there are two springs, isolated from each other, which serve as elastic elements for suspending the coil and the elements for removing current from the moving coil

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USSR

KOVALEV, O. I., et al., USSR Authors' Certificate No 363059

to the output terminals of the transducer. Over the rubber ring, which is shifted into a circular groove formed by the cylindrical surfaces of the frame and cover, there is a metal ring. An illustration of the device is included.

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USSR

UDC 669.721'71'5.018.9

VYAZNER, M. YA., TAYTS, A. YU., and MORACHEVSKIY, A. G.

"Equilibrium of Liquid-Vapor Over Binary Melts of Magnesium-Aluminum and Magnesium-Zinc"

V. sb. Vakuumn. protsessy v tsvetn. metallurgii (Vacuum Processes in Non-ferrous Metallurgy -- Collection of Works), Alma-Ata, "Nauka," 1971, pp 120-124 (from Referativnyy Zhurnal -- Metallurgiya, No 6, Jun 71, Abstract no 6G186)

Translation of Abstract: The equilibrium of liquid-vapor in the systems Mg with Zn and Mg with Al was studied and the possibility was shown of the distribution of the liquid melt on pure components by means of fractional distillation (Five illustrations; 20 bibliographic entries).

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USSR

UDC 624.131.43+539.21.084-492.3

VYAZNIKOVTSSEV, O. I.

"Considering the Physicomechanical Properties of Rocks in Calculating Deformations of the Surface of the Earth"

V sb. Sdvizheniya gorn. porod (Displacement of Rock -- Collection of Works), (All-Union Scientific Research Institute of Mine Surveying, Vol. 83), Leningrad, 1971, pp 34-39 (from RZh-Mekhanika, No 3, Mar 72, Abstract No 3V979)

Translation: In a method proposed by R. A. Muller for calculating the deformation of the surface of the earth in the excavation of horizontal seams of coal (see Tr. VNIIMI, Collection 32, Leningrad, 1957), the physicomechanical properties of the rock were accounted for by introducing into the computational formula a special coefficient, the instrumental determination of which was very laborious and not always possible. By taking into account the fact that the angle of shift of the rock (in the presence of cohesion) may be approximately taken as equal to the apparent angle of internal friction ϕ , a simple formula is obtained for determining this coefficient which has the form: $C^2 = 0.15 \operatorname{tg}(90^\circ - \phi)$. Computational results based on this formula for the coefficient C^2 are given for

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USSR

VYAZNIKOVTSSEV, O. I., Sdvizheniye gorn. porod, Leningrad, 1971, pp 34-39

various rocks and soils. A comparison of the angles of shift calculated with the aid of this coefficient and measured in deposits and base rock of Western Donbass shows that the greatest deviation in the measured angle from the calculated angle is 5° for a mean square error of $+2^{\circ}30'$, which is less than the error in determining the angles of shift permitted by the Administration for the Calculation of Buildings and Structures designed for worked territories. 6 ref. K. K. Glazenap.

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USSR

UDC 612.451:612.766.2

VYAZNITSKIY, P. O., PECHENEVSKIY, A. V., and KOROTKOV, D. I.

"Effect of Hypodynamia on the Nitrogen Balance and Glucocorticoid Activity of the Adrenal Cortex"

Moscow, Voenno-Meditsinskiy Zhurnal, No 8, 1972, pp 59-60

Abstract: Several biochemical parameters were measured in the urine of 16 human subjects who remained seated and inactive for 3 days in armchairs with the backs tilted at 90, 110, and 140°. The enforced hypodynamia distinctly increased the excretion of total nitrogen and creatinine, but only when the back of the chair was tilted at 90 and 140° (at 110° there was virtually no change). The 17-hydroxycorticosterone level tended to rise while the glucocorticoid activity of the adrenal cortex clearly decreased when the subjects' backs were at 90 and 140° angles. Thus, not only hypodynamia but the position of the trunk affected this function. The excretion of neutral 17-ketosteroids with urine increased in the subjects who sat in chairs with the backs tilted at 90 and 140°. These subjects also exhibited a distinct decrease in glucocorticoid activity of the adrenal cortex, i.e., the increase in excretion of neutral 17-KS may have been due solely to the intensification of androgen activity, a protective-adaptive reaction of the body to the negative nitrogen balance brought about by hypodynamia.

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Lubricants and Lubrication

USSR

CHUKMASOV, S. F., VYAZOVAYA, I. V.

"The Wettability of Bearings With Liquid Lubricants"

Dnepropetrovsk, Metallurgicheskaya I Gornorudnaya Promyshlennost', No 1, Jan-Feb 70, pp 71-72

Abstract: The Petrov criterion, the ratio of the interaction of the lubricant with the shaft metal to the interaction of the lubricant with the bearing material or, which amounts to the same thing, the ratio of the wettability of the shaft with the lubricant to the wettability of the bearing material with the same lubricant, can be used in selection of material for shaft-lubricant-bearing systems with considerable success. It is useful to create a system of components such that the Petrov criterion lies within the range of optimal values. This allows the durability and reliability of the units to be improved. The authors performed laboratory tests of the wettability of a shaft metal (type 45 steel) and bearing metal

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USSR

CHURMASOV, S. F., VYAZOVAYA, I. V., Metallurgicheskaya I
Gornorudnaya Promyshlennost', No 1, Jan-Feb 70, pp 71-72

(type B16 Babbit) with various liquid mineral oils. The minimum values of K_p were produced for types IS-45 and P-28 lubricants, which were recommended for the friction unit in question.

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USSR

UDC 669.71.053.4.094

SMIRNOV, M. N., VYAZOVOVA, A. A., and ZAYTSEVA, M. A.

"Interaction of Potassium-Calcium Silicate $\text{Na}_2\text{O} \cdot \text{CaO} \cdot \text{SiO}_2$ with Aluminate-Alkaline Solutions"

Tr. Vses. n.-i. i proyekt. in-ta alyumin., magn. i elektrod. prom-sti
(Works of the All-Union Scientific Research and Planning and Design Institute of Aluminum, Magnesium and Electrode Industry), 1970, No 70, pp 103-108 (from RZh-Metallurgiya, No 4, Apr 71, Abstract No 4G138)

Translation: A study was made of the interaction of $\text{Na}_2\text{O} \cdot \text{CaO} \cdot \text{SiO}_2$ with aluminate-alkaline solutions containing 45-86 percent Al_2O_3 and having a causticity of 1.47-1.6 at temperatures of 50 and 75°. The Na-Ca-silicate of the indicated composition interacts comparatively actively with aluminate-alkaline solutions and leads to the corresponding losses of Al_2O_3 in the form of sodium hydroalumosilicate and $3\text{CaO} \cdot \text{Al}_2\text{O}_3 \cdot n\text{SiO}_2 \cdot (6-2n) \text{H}_2\text{O}$. The losses increase with time with an increase in the Al_2O_3 concentration and the solution

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USSR

SMIRNOV, M. N., et al., Tr. Vses. n.-i. i proyekt. in-ta alyumin., magn. i elektrod. prom-sti (Works of the All-Union Scientific Research and Planning and Design Institute of Aluminum, Magnesium and Electrode Industry), 1970, No 70, pp 103-108 (from RZh-Metallurgiya, No 4, Apr 71, Abstract No 4G138)

temperature, and they reach 6-8 percent in two hours. There is no strict relation between the degree of decomposition of the Na-Ca-silicate and the Al_2O_3 losses. This is connected with complexity of the process of decomposition of this compound. The point of view of the authors with regard to the schematic of the given process is discussed. There are 2 tables and a 6-entry bibliography.

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USSR

UDC 632.95

SIMONOV, V. D. MAMINA, F. A., GERASIMOVA, A. I., ALYAMKIN, YU. N., AKHUNOV, T. F., and VYAZOVKINA, G. I.

"Determination of the Basic Substance in Herbicidal Preparations of Yalan"

V sb. Probl. analit. khimii (Collection of Works: Problems of Analytical Chemistry), Vol 2, Moscow, Nauka, 1972, pp 138-142 (from Referativnyy Zhurnal -- Khimiya, Svodnyy Tom, No 23(II), 1972, Abstract No 23M49 by T. A. Belyayeva)

Translation: The application of gas chromatography, spectroscopic, and titrimetric methods to determination of the basic substance in the oil emulsion and granulated preparations of yalan was evaluated. Using a thermal conductivity detector, the gas chromatography is carried out at the column temperature of 190°C, with the gas carrier (H_2) flow rate of 240 ml./min. Heat-insulating silanized brick is used the solid phase apiezon M with stearic acid is used as an immobile liquid phase. The relative error of determination does not exceed 3.4%. A study of the IR yalan spectra and of accompanying components indicated that the band 1412 cm^{-1} can be used successfully. The titrimetric method is based on the hydrolysis of S-ethyl N-hexamethylenethiocarbamate at 130°C in the presence of 85% orthophosphoric acid followed by determination of the imine formed with the acid-alkaline titration (0.1 N solution of H_2SO_4 with methyl red indicator). The determination error does not exceed 1.6%.

USSR

VYAZOVSKIY, G.

"How Many Dolphins in the Black Sea?"

Baku, Bakinskiy Rabochiy, 15 Jan 71, p 4

Translation: A study of the number of dolphins in the Black Sea has been completed by scientists of the Scientific Research Institute of Marine Fisheries and with staff members of the Institute of Biology of the Southern Seas, Ukrainian Academy of Sciences.

The census was conducted over a period of 3 months, using airplanes upon which a special apparatus had been mounted. As a rule, dolphins swim close to the surface of the water and can easily be seen from the air. In addition to determining their number, their distribution and behavior were also observed. The largest concentration of dolphins appears to be along the Crimean coast. The census showed that the number of these animals has doubled since it was forbidden to catch them in 1965.

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USSR

JOHANSEN, B. G.

"Plenary Sessions of the Scientific Council of the Ichthyological Commission on Problems of Hydrobiology, Ichthyology, and Utilization of the Biological Resources of Bodies of Water"

Moscow, Voprosy Ikhtiologii, Vol 10, No 4, 1970, pp 768-770

Abstract: The All Union Hydrobiological Society considered plans for the International Limnological Congress to be held in Leningrad in 1971. At the meeting of the Ichthyological Commission, the research program for the study of water resources and marine mammals was elaborated. The plenary session discussed the need to assure a water supply for the Caspian Sea, to develop studies of the productivity of lakes and ponds, and to perfect the methods of investigation. Special attention was called to oil pollution of the waters, and it was recommended that the Ministry of the Fishing Industry appeal to international organizations for protection of cetaceans in the North Atlantic Ocean and in Antarctica. Organization of an all-union conference on biological principals of the Fishing industry was approved for 1971. At the session of the Scientific Council, information was

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USSR

JOHANSEN, B. G., Voprosy Ikhtiologii, Vol 19, No 4, 1970, pp 768-770

presented on a conference on sanitary hydrobiology (Moscow, February 1969); a symposium on criteria and methods for studying the toxicology of waters (Leningrad, January); a conference on limnology, Baykal, September); and a symposium on marine biology (Sevastopol, April). Monographs have been on published on "Lake Microflora and Their Geochemical Activity" (S. I. Kusnetsov); "Hydrochemical Processes and Dynamics of Water Masses" (N. V. Butorin); "The Plankton of Seas and Continental Reservoirs" (I. A. Kiselev); "Ecology and Biogeography of Pelagials" (K. V. Beklemishev); and "Changes in Fertility of Fishes" (L. Ye. Anokhina). The following works are to be published in 1971: "Methods of Biological Studies of the Toxicology of Waters"; "Toxicology of Polluted Bodies of Water"; "Modern Concepts of the Theory and Practice of Self-Purification of Polluted Bodies of Water.

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USSR

UDC 539.3:534.1

VYBORNOV, V. G. and VELIKANOVA, N. P.

"An Experimental Investigation of the Stability of Slanting Conical Panels Under the Action of External Uniform Pressure"

Kazan', Issled. po teorii plastin i obolochek, No 9 (Investigations on the Theory of Plates and Shells, Collection of Works), Kazan' University, 1972, pp 219-228 (from Referativnyy Zhurnal -- Mekhanika, No 4, 1973, Abstract No 4v424 by E. I. Sokolov)

Translation: The results of an experimental investigation on the stability of slanting conical panels under the action of external uniform pressure are presented. The slanting conical panels are bounded by two conical shell guides and two spiral lines, intersecting the cone surfaces at an angle (beta) of 45° . The stability of slanting conical panels with a diameter less than the base $2R_1=300$ mm, the angle of taper $2\gamma = 90^\circ$ and the ratio $R_1/R_0 = 1.5, 3.0$ was investigated. The pressure p_{kr1} , corresponding to the appearance of the first wave bulge, the wave number n , the pressure of reverse exhaust p_{kr} , the pressures $p_{kr2}, p_{kr3}, \dots$, corresponding to the appearance of the second, third etc. waves, the wave length and the critical load p_{max} , corresponding to the maximal wave number n_{max} were recorded for the panels. An analysis of the

USSR

VYBORNOV, V.G. and VELIKANOVA, N. P., Issled. po teorii plastin i obolochek, No 9, 1972, pp 219-228

multiple experimental data, obtained for the panels of aluminum foil and steel K4OHXM tape was conducted. For calculating the critical pressure for the slanting conical panels a formula for the critical pressure of straight conical panels is proposed, from which the parameter $t = \ln(R_1/R_0)$ is excluded, while a correcting function $\phi(\alpha, \beta)$ is introduced, where alpha is the angle of the lower base of the panel (during the experiments alpha changed by 5° in the limits $15^\circ \leq \alpha \leq 35^\circ$). On the basis of the experimental data, values of the correcting functions $\phi(\alpha, \beta)$ were obtained for panels with beta equalling 45° . The results of experimental investigations of uniform external pressure on straight conical panels made of the same materials as the slanting conical panels are also presented. An analysis of the functions of straight and slanting panels is given. It is shown that the critical loads for slanting conical panels significantly exceed the critical loads for straight conical panels with equal angles alpha and equal base radii R_1 and R_0 .

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USSR

VYBORNOV, V. G.

"Experimental Estimate of Influence of Boundary Conditions on Edges of Conical Panel on Critical Loads"

Sb. Aspirantsk. Rabot. Kazan. Un-t. Tochen. Nauki, mekh., Fiz. [Collection of Graduate Papers of Kazan University, Precise Sciences, Mechanics, Physics], Kazan', 1971, No 1, pp 71-77, (Translated from Referativnyy Zhurnal, Mekhanika, No 4, 1972, Abstract No 4 V400 by V. P. Mal'tsev).

Translation: The stability of conical panels of aluminum alloy under the influence of even external pressure is studied. The panels tested had the following geometric parameters:

- a) $2\beta=45^\circ$, $r_1/r_0=1.2$, $\beta=15^\circ$
- 6) $2\beta=90^\circ$, $r_1/r_0=1.2, 1.5; 3.0$, $\alpha=30^\circ$

where 2β is the angle of conicity at the tip, r_1 and r_2 are the distances along the generatrix from the tip of the cone to the large and small bases of the conical envelopes; α is the aperture angle of the panel in the plane of the lower base.

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USSR

VYBORNOV, V. G., Sb. Aspirantsk. Rabot. Kazan. Un-t. Tochen. Nauki, mekh., Fiz., Kazan', 1971, No 1, pp 71-77.

Four types of boundary conditions are studied: 1) rectilinear edges freely supported, curved edges rigidly clamped; 2) rectilinear edges rigidly clamped, curved edges freely supported; 3) all four edges of panel freely supported. Estimates are given of the influence of fastening of the edges of the panel both on the critical snapping pressure and on the reverse snap. It is demonstrated that the least critical pressure is observed in the case when the ball edges are freely supported. In this case, the reduction in the critical pressure reaches 50-70% in comparison with the case of clamping. This reduction is primarily influenced by the conditions on the rectilinear edges, less by the conditions on the curve edges. It is noted that with increasing angle α and r_1/r_0 ratio, the influence of boundary conditions decreases.

USSR

UDC 616.981.42-036.21(571.62)

VYBOROV, G. P., Khabarovsk Medical Institute

"Epidemiology of Brucellosis in Khabarovskiy Kray"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 7, Jul 70,
pp 16-21

Abstract: Brucellosis is fairly prevalent among cattle, swine, reindeer, and the native human population in this Far Eastern region of the USSR, as shown by serological examination and analysis of 12 Brucella cultures. The incidence of infection, based on the Wright and Huddleson reactions and the Burnet skin test, 40.5% of 242 persons examined in a focus of cattle brucellosis, and 24.8% in a focus of swine brucellosis. The route of infection varied with the type of brucellosis: alimentary (eating raw or inadequately cooked meat) in the "reindeer" focus, contact-alimentary in the "cattle" focus, and almost always contact in the "swine" focus. Some cases are believed to have been caused by inhalation of infected dust which was blown about when reindeer hides were dressed.

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USSR

UDC 539.67

KRISHTAL, M. A., VYBOYSHCHIK, M. A., VODOP'YANOV, V. N., GOLOVIN, S. A.,
MOKROV, A. P., and GONCHARENKO, I. A.

"Dislocation Damping and Study of Dislocation Structure and Mobility Along the
Dislocation Tubes"

Sb. "Vnutrenneye treniye v metallicheskih materialakh" (Internal Friction in
Metallic Materials), Moscow, Izd-vo "Nauka," 1970, pp 85-90

Abstract: The effect of weakly soluble impurities and their mobility on
stress in surface layers and upon formation of a dislocation network before
the diffusion front is studied. The change in dislocation structure is
investigated by internal friction time dependence. At the same time, the addi-
tional impurities precipitation upon dislocations was considered in the recovery
process of Cu-La, Cu-Li, and Cu-B alloys. An increased dislocation density in
the diffusion zone was studied on an Fe-In system. Diffusion equations for
impurity atoms along the dislocation, its solution, and analysis are presented.
The described model works in dilute solutions with impurity concentrations less
than 0.05% and at temperatures lower than those corresponding to the formation
of Cottrell's atmospheres. 1 table. 5 figures, 3 references.

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Extraction and Refining

USSR

UDC 669.243.881:669.046.542

VYCHEROV, V. G., TSEMEKHMAN, L. SH., SHIROKOVA, Z. F., and KUBACHEV, P. P.

"Carbon Behavior in Smelting Oxidized Nickel Ores to Ferronickel"

Moscow, Tsvetnyye metally, No 5, May 72, pp 21-23

Abstract: The principal factors responsible for carbon behavior in the process of smelting oxidized nickel ores resulting in frothing are the composition of the melt and the oxidizer consumption rate. The higher the consumption (all other conditions being equal), the higher the carbon solubility in the metal melt. Silicon and nickel are shown to reduce carbon solubility in iron while chromium has the opposite effect. It is shown here that frothing is caused primarily by the reaction of ferrous oxide with the carbon dissolved in the ferronickel. Addition of small amounts of ferrosilicon to the melt will eliminate frothing in the process of smelting to ferronickel, regardless of the melt's composition. Preliminary ore reduction with a gaseous agent will eliminate the presence of carbon in the melt. Simultaneous melting of both reduced and unreduced ores is shown to have practical application in that iron ore is more readily reduced at lower temperatures than magnesium ore and may require

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USSR

VYCHEROV, V. G., et al, Tsvetnyye metally, No 5, May 72, pp 21-23

much shorter time for the preliminary reducing roasting of the overall amount of ore. (1 illustration, 1 table, 5 bibliographic references)

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USSR

UDC 621.762.002.5(088.8)

VYDREVICH, L. A., and SINOLITSIN, V. V.

"Apparatus for Monitoring the Shrinkage of Objects During Sintering"

USSR Authors' Certificate No 276464, Cl. 42 i, 12/03; 40 b, 1/08, (G 01 k 12/03, C22c 1/08), filed 3 Sep 66, published 22 Oct 70 (from RZh-Metallurgiya, No 3, Mar 71, Abstract No 3G481P)

Translation: The apparatus includes an inductance measuring coil, a measuring core, and a stand. In order to increase measurement accuracy, the apparatus contains a compensating inductance coil which is mechanically connected with a measuring rod. The measuring and compensating coils are connected differentially. One illustration.

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USSR

UDC 669.712

VYDRIK, G. A., and SOLOV'YEVA, T. V.

"Synthesis of Cesium β -Alumina

Moscow, Izvestiya Akademii Nauk SSSR, Neorganicheskiye Materialy, Vol 8,
No 2, 1972, pp 414-415

Abstract: As we know, β -alumina is not a modified form of alumina, but a rather numerous group of high-alumina aluminates, joined by similarity of their crystalline lattice, related to the hexagonal system. Based on earlier studies, an attempt was made to synthesize cesium β -alumina, more precisely cesium aluminate. The material is synthesized by first synthesizing barium aluminate, then performing a substitution reaction. X-ray studies of barium aluminate and cesium aluminate indicate the similarity of the structure of the two compounds. The difference between them consists in the additional reflections and increased interplanar separations of the cesium aluminate.

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USSR

UDC 620.1:531.782(088.8)

VYDRIN, V. N., AGEYEV, L. M., TISHCHENKO, O. I., SMOLIN, A. P.

"Cam Plastometer"

USSR Author's Certificate No 265518, Filed 26 Oct 68, Published 10 Jul 70
(from RZh-Metallurgiya, No 4, Apr 71, Abstract No 4I959)

Translation: The invention pertains to techniques and equipment for studying the properties of metals and alloys under various thermomechanical strain conditions. The proposed cam plastometer differs from the known ones by the fact that an additional control cam is rigidly attached to the flywheel. The additional cam is phase-shifted with respect to the operating cam and interacts with the rack and pinion inclusion mechanism on the pinion shaft of which a cam is rigidly attached with a stud which closes the kinematic loading circuit. Stability of inclusion of the kinematic loading circuit in a broad range of deformation rates of the tested sample is insured with this execution of the device.

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USSR

UDC 621.771.01

VYDRIN, V. N., FEDOSIYENKO, A. S., and KRAYNOV, V. I.

"Protsess nepreryvnoy prokatiki" (Continuous Rolling Process), Moscow, Izd-vo "Metaliurgiya," 1970, 456 pp

Abstract: Regularities of continuous rolling on a smooth barrel and in roll passes under conditions of cold and hot deformation are discussed on the basis of a unique methodology. Special features of the operation of continuous mills are considered and algorithms describing the process of continuous rolling on equipment of various types are presented. Technological foundations for the automation of continuous mills are established. Particular attention is given to processes taking place in the deformation source which determine the operating conditions of continuous mills.

The book is intended for engineers involved with the technology, equipment, and automation of rolling mills and also for scientific personnel and students at higher educational institutions. 130 figures, 31 tables, 146 references.

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USSR

VYDRIN, V. N., et al., "Protsess nepreryvnoy prokatiki" (Continuous Rolling Process), Moscow, Izd-vo "Metallurgiya," 1970, 456 pp

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VYDRIN, V. N., et al., "Protsess nepreryvnoy prokatiki" (Continuous Rolling Process), Moscow, Izd-vo "Metallurgiya," 1970, 456 pp

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VYDRIN, V. N., et al., "Protsess nepreryvnoy prokatiki" (Continuous Rolling Process), Moscow, Izd-vo "Metallurgiya," 1970, 456 pp

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USSR

VYDRIN, V. N., and AGEYEV, L. M., Chelyabinsk Polytechnical Institute

"A New Technical Process for the Rolling of Sheets and Bands"

Moscow, *Stal'*, Vol 31, No 4, Apr 71, pp 334-336

Abstract: A new process of rolling combined with drawing has been developed (cf. Author's Certificate No 225829, *Byulleten' Izobreteniy*, No 28, 1968) in which the sheet or band being treated envelops the two rollers. A tension is applied to both ends of the metal strip and the ratio of peripheral velocities of the rollers is made equal to the degree of drawing. A study showed that in the production of cold-rolled sheets and bands by the new method the pressure of the metal on the rollers and the power expended are reduced considerably. Application of the new process lowers the relative differences in thickness longitudinally, improves the stability of geometric dimensions of sheets, increases the production efficiency, and lowers production costs. Furthermore, automatic control is simplified and the stability of rollers increased. Application of the new process opens up possibilities for the cold rolling and very thin cold rolling of sheets and bands from super-strength steels and alloys. Experiments showed that in the rolling of welded bands by the new method the pressure differential in the welded seam is 1/2

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USSR

VYDRIN, V. N., and AGEYEV, L. M., Stal', Vol 31, No 4, Apr 71, pp 334-336

considerably reduced vs. that in ordinary rolling, so that the danger of fracture during passage of the seam through the rollers is lessened.

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USSR

UDC 621.771.23.011

~~VYDRIN, V. N.~~, TUMARKIN, V. YA., and AGEYEV, L. M., Chelyabinsk Polytechnical Institute

"Experimental Investigation of Contact Stress During Rolling of Thick Strips. Report 1"

Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy -- Chernaya Metallurgiya, No 2, 1970, pp 75-78

Abstract: The article describes the results of investigations of contact stresses during rolling of thick strips carried out with the help of a roll torquemeter. Identical measuring devices are placed into both rolls. Characteristic curves of contact stresses are presented and analyzed. The shape of curves of adjacent stresses depends on the kinematics of metal flow in relation to the contact surface and is related to the dependence of mechanical properties of the cited metal on the degree and rate of deformation. The obtained curves of normal stresses substantiate and expound the current explanation concerning their dependence on parameters, which characterize the form of deformation area, and are in full agreement with the curves of friction forces.

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USSR

UDC 621.371.22.3

VEDRIN, V. N., LARIN, A. N., and YAKOBSON, V. Z., Zlatoust Metallurgical Plant;
Chelyabinsk Polytechnical Institute

"Improving the Rolling Technology of High-Chromium Steels"

Moscow Metallurg, No 8, Aug 70, pp 34-38

Abstract: The Zlatoust Metallurgical Plant in collaboration with the Chelyabinsk Polytechnical Institute conducted a study on improving the rolling technology of high-chromium steels. The study concerned the effect of various factors on increasing the tendency of high-chromium steels to coiling upon bleeding and back pass rolling on heavy section mills. Use was made of mathematical simulation to investigate the effect of heating conditions and departures from the chemical composition of the steel within GOST specifications on coiling. The study also includes the plasticity of Kh25T steel at high temperatures and the temperature of the beginning of recrystallization at various stages of plastic deformation, and the setting of the working mill. The results served as a basis for a technology of rolling 2.7-ton ingots of high-chromium steels. The study also disclosed a distinctive feature of the process, namely the tendency of the metal to sticking to the roller surface, which is one of the causes leading to coiling. The new technology, which has been used at the Zlatoust Metallurgical Plant,

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USSR

VIDRIN, V. N., *St. Petersburg*, No 8, Aug 70, pp 36-38.

reduced the amount of rejects due to coiling and unfinished rolling on the 950-mill from 4.88 to 0.92%, and on the 750-mill from 1.32 to 0.26%. The yearly savings on the 750-mill amounted to 42,700 rubles.

1/2 024

UNCLASSIFIED

PROCESSING DATE 0200.10

TITLE--SPECIFICITY OF SEROLOGICAL REACTIONS BASED ON SERUM BACTERICIDITY

-U-

AUTHOR--(05)--RUKHADZE, E.Z., LEVI, M.I., TENDETNIK, YU.YA., PRYAMUKHINA,
N.S., VYDRINA, YE.I.

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL MIKROBIOLOGII, EPIDEMIOLOGII I IMMUNOBIOLOGII, 1970, NR 3,
PP 63-68

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--SEROLOGIC TEST, DYSENTERY, TYPHOID FEVER ANTIGEN, SALMONELLA
TYPHIMURIUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1990/1487

STEP NO--UR/0016/70/000/003/0063/0068

CIRC ACCESSION NO--AP0109547

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--02OCT70

2/2

024

CIRC ACCESSION NO--AP0109547

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. SPECIFICITY OF BACTERIOLYSIS
REACTION WAS STUDIED ON A MODEL OF THE CAUSATIVE AGENTS OF DYSENTERY,
TYPHOID FEVER AND TYPHIMURTIUM. REACTIONS OF BACTERIOLYSIS AND OF
BACTERIOLYSIN NEUTRALIZATION WERE DESCRIBED. SPECIFICITY OF
BACTERIOLYSIS PHENOMENON WAS DEMONSTRATED BY THE REACTION OF
BACTERIOLYSINS, WHEREAS REACTION OF BACTERIOLYSIN NEUTRALIZATION CAN BE
RECOMMENDED FOR DETECTION OF SMALL AMOUNTS OF COMPLETE ANTIGENS OF
VARIOUS BACTERIA.

UNCLASSIFIED

1/2 024 UNCLASSIFIED PROCESSING DATE--11DEC70
TITLE--OBTAINING AN ADSORBED COMPLEMENT FOR TITRATING BACTERIOLYSINS OF
SALMONELLA TYPHI IN BACTERIOLYSIS -U-
AUTHOR--(C3)-TENDETNIK, YU.YA., VYDRINA, YE.I., LEVI, M.I.
COUNTRY OF INFO--USSR
SOURCE--LAB. CELC 1970, (3), 186-7
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--SALMONELLA, COMPLEMENT FIXATION TEST, BLOOD SERUM, HEMOLYSIS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3001/0346 STEP NO--UR/9099/70/000/003/0186/0187
CIRC ACCESSION NO--AP0126104
UNCLASSIFIED

2/2 024

CITAC ACCESSION NO--AP0126104

UNCLASSIFIED

PROCESSING DATE--11DEC70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SERA OF GUINEA PIGS CONTG. NO LESS THAN 50 HEMOLYTIC UNITS OF COMPLEMENT PER 1 ML WERE USED. THE ABSORPTION SUSPENSION WAS PREPD. FROM A CULTURE S. TYPHI 1203 KILLED WITH 10PERCENT FORMALDEHYDE, WASHED AND CENTRIFUGED AT 3000 RPM FOR 1 HR. THE SERUM DILD. 1:10 WAS ADDED TO THE SEDIMENT, THE MIXT. WAS KEPT FOR 0.5-18 HR AT 4-5DEGREES, AND AGAIN CENTRIFUGED AT LOW TEMP. THE LIBERATED COMPLEMENT WAS THEN TESTED BY THE BACTERIOLYTIC REACTION (V. A. KILESSO, ET AL., 1967). BEST RESULTS WERE OBTAINED WITH A 1 HR ABSORPTION WHICH WAS REPEATED TWICE. SHEEP ERYTHROCYTES TREATED WITH FORMALDEHYDE AND SENSITIZED BY HOMOLOGOUS O ANTIGEN WERE ALSO USED SUCCESSFULLY FOR THE ABSORPTION. FACILITY: TSENT. NAUCH.-ISSLED. INST. EPIDEMIOLOG., MOSCOW, USSR.

UNCLASSIFIED

1/2 013 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--SERVICE OF CHROMIUM SPINEL FORSTERITE CERAMICS IN UPTAKES OF ROOFS
OF SLAG POCKETS AND REGENERATORS OF OPEN HEARTH FURNACES -U-
AUTHOR--(04)-UZBERG, A.I., BRON, V.A., VYORINA, ZH.A., BESPAMYATNYKH, V.I.
COUNTRY OF INFO--USSR
SOURCE--OGNEUPORY 1970, 35(2), 23-31
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR
TOPIC TAGS--SPINEL, OPEN HEARTH FURNACE, CHROMIUM COMPOUND, CERAMIC
MATERIAL
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1996/0890 STEP NO--UR/0131/70/035/002/0023/0031
CIRC ACCESSION NO--AP0118059
UNCLASSIFIED

2/2 013

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0118059

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CR SPINEL FORSTERITE (I) CERAMICS WERE FOUND ON EVALUATION TO BE SUITABLE AS REPLACEMENT FOR MAGNESITE CHROMITE (II) LININGS. THE USE OF I WAS EXPECTED TO ECONOMIZE THE PROCESS. THE POSSIBLE CRYSTALLOGRAPHIC AND CHEM. CHANGES OCCURRING DURING SERVICE (REVERSIBLE REDN. OF Fe^{2+} TO Fe^{3+} ; RECRYSTN. OF FORSTERITE, CHROMITE, AND SILICATE PHASE) IS DISCUSSED. FACILITY: VOST. INST. OGNEUPOR, SVERDLOVSK, USSR.

UNCLASSIFIED

USSR

UDC 632.95

VYGODCHIKOV, G. V., and MEDVED', L. I., Academy of Medical Sciences of the USSR, Department of Hygiene, Microbiology and Epidemiology (Editors)

"Problems of the Hygiene and Toxicology of Insecticides"

(Works of the Scientific Session of the Academy of Medical Sciences of the USSR, Kishinev, 24-26 Aug 1967), Moscow, "Meditsina," 1970, 295 pp, ill. (from RZh-Khimiya, No 2, 25 Jan 71, Abstract No 2N559 K)

Translation: The collection contains more than 60 papers and reports relating to the toxicity of pesticides, their accumulation and circulation in the ambient medium, treatment of illnesses, ethiology. Particular attention is given to problems of the mechanism of action and toxicology of the most widely used pesticides, as well as the problem of standardizing residual quantities.

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USSR

UDC 615.372:576.851.252.095.15

BALAYAN, L. B., and VYGODCHIKOV, G. V., Institute of Epidemiology and Microbiology
imeni Gamaleya, Academy of Medical Sciences USSR

"Thermostability of Staphylococcus Toxoids"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 7, Jul 70,
pp 87-89

Abstract: It was determined in experiments on rabbits that storage of crude staphylococcus toxoid at 42 to 44°C for 5 days had no appreciable effect on its antigenic properties (as measured by the accumulation of Staphylococcus alpha antitoxin in the animals' blood). Storage of purified adsorbed toxoid under the same conditions, on the other hand, reduced its antigenic properties considerably. This reduction in antigenic properties through exposure to elevated temperatures is ascribed to the loss of most of the toxoid proteins due to heating. Experiments to determine the antitoxin-binding activity of the two toxoids showed no dissociation of the toxoid-aluminum hydroxide complex.

USSR

VYGODSKAYA, N., Candidate of Biological Sciences

"Prognoses of Geographers are Confirmed by Doctors"

Moscow, Nauka i Zhizn, No 12, 1970, pp 22-25

Abstract: Medical geography maps help scientists to explain outbreaks of diseases linked to the natural characteristics of a given region. Some 120 such maps have been prepared in Russia since the 17th century. The intent was to create such maps covering all of Russia. At the end of the 19th century, medical geography became a science. Today, all of this work has been coordinated by the Medical Geography Branch of the All Union Geographic Society, under the directorship of Dr. A. A. Shoshin. More than 30 forms of regional infectious diseases are known, caused by viruses, bacteria, spirochaetes, and helminths. Many maps have been plotted for the incidence of such diseases in various areas of the Soviet Union and in foreign countries. In addition to infectious diseases, biochemical endemics, that is, illnesses caused by an excess or deficiency of trace elements (endemic goiter, caries, fluorosis goiters, etc.), can be geographically defined on the basis of their direct relationship to certain natural

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USSR

VYGODSKAYA, N., Nauka i Zhizn, No 12, 1970, pp 22-25

conditions. The same holds true for bronchial asthma. The distribution of myopia in the Ukraine was studied in detail by workers at the Institute of Eye Diseases. At present, work is in progress on a complete medical geography atlas of the Soviet Union, and prophylactic measures are being designed for the prevention of both infectious and noninfectious diseases.

2/2

1/2 016 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--CALCULATION OF PHYSICOCHEMICAL PROPERTIES OF ALKYLGERMANES -U-
AUTHOR--(03)-SHAULOV, YU.KH., VYGODSKAYA, YE.M., FEGOROVA, A.K.
COUNTRY OF INFO--USSR
SOURCE--ZH. FIZ. KHIM. 1970, 44(1), 268-9
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--CALCULATION, ORGANOGERMANIUM COMPOUND, HYDROCARBON, PHYSICAL
CHEMISTRY PROPERTY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1995/1265 STEP NO--UR/0076/70/044/001/0268/0269
CIRC ACCESSION NO--AP0116727
UNCLASSIFIED

2/2 016

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0116727

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PHYSICOCHEN. PROPERTIES (P) OF TETRAALKYLGERMANES AND HYDROCARBONS CAN BE EXPRESSED AS A SUM OF SOME VALUES; EACH OF THEM CORRESPONDS WITH THE PARTIAL PROPERTY CHARACTERISTIC OF A PARTICULAR BOND. (FORMULA SHOWN ON MICROFICHE), WHERE THE NS REFER TO THE RESP. BOND AND THE P TO THE PARTIAL PROPERTY. THE EQUATION AS WELL AS THE METHOD OF CALCN. OF THOSE PROPERTIES ARE GIVEN. THE CALCD. VALUES OF HEAT OF COMBUSTION FOR A SERIES OF TETRAALKYLGERMANES WERE IN A GOOD AGREEMENT WITH THE EXPTL. DATA. FACILITY: MOSK. INST. ELEKTRON. MASHINOSTR., MOSCOW, USSR.

UNCLASSIFIED

Acc. Nr.

AP0048857

Abstracting Service:

CHEMICAL ABST.

Ref. Code

21 R 0459

90918u Viscometric and electron-microscopic studies of the polypyromellitimide of anilinephthalein. Korshak V. V.; Pavlova, S. A.; Boiko, L. V.; Babchinitser, T. M.; Vinogradova, S. V.; Vygodskii, Ya. S.; Golubeva, N. A. (Inst. Elementorg. Soedin., Moscow, USSR). *Vysokomol. Soedin., Ser. A* 1970, 12(1), 56-62 (Russ.). The hydrodynamic properties of the title polymer (I) (prepd. from pyromellitic dianhydride and anilinephthalein by a high temp. polycyclization in PhNO_2 or by a 2-stage procedure) were studied. Viscosity and mol. wt. measurements indicated that the reaction conditions had no effect on the structure of I. The intrinsic viscosity of I was proportional to the mol. wt. (2000-160,000). The rigid I macromols. had a linear structure and were present in soln. as assoc. globules. The dimensions of the globules (as measured by electron microscopy) were similar to those calcd. from viscometric data using the P. Debye-A. M. Bueche equation (1948). CKJR

REEL/FRAME

19800624

Acc. Nr:

AP0041737

Abstracting Service: Y-70
CHEMICAL ABST. V

Ref. Code:

UR0459

79596s Degradation of aromatic polyimides at high temperatures. Gribkova, P. N.; Rode, V. V.; Vyzodskii, Ya. S.; Vinogradova, S. V.; Korshak, V. V. (Inst. Elementoorg. Soedin., Moscow, USSR). *Vysokomol. Soedin., Ser. A* 1970, 12(1), 220-8 (Russ). The thermal degradation in vacuo, O₂, and air of aromatic polyimides (I) at 375-600° was investigated. I were prep'd. by polycondensation of pyromellitic anhydride with 3,3-bis(p-aminophenyl)phthalide or 9,9-bis(p-aminophenyl)fluorene (II) and from 3,3',4,4'-tetracarboxydiphenyl ether and II. I were stable in vacuo at ≤425-75° but began to decomp. at higher temps. to yield solid and liq. low-mol.-wt. substances, as well as CO, CO₂, and H₂. Decompn. began via homolytic cleavage of the imide rings and isomerization. O₂ did not initiate the degradation but oxidized the cleavage product to accelerate the degradation of I. The presence on the central C atom of the starting diamine of a closed, cyclic group capable of conjugation increased the thermal stability of I.

DBJR

REEL/FRA
19751614

1/2 024 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--EFFECT OF GAMMA IRRADIATION OF RATS DURING EMBRYOGENY ON THE
ISOENZYME COMPOSITION OF LACTIC DEHYDROGENASE IN THE TISSUES OF
AUTHOR--(02)-VYGOVSKAYA, G.P., KUZIN, A.M.
COUNTRY OF INFO--USSR
SOURCE--RADIOBIOLOGIYA 1970, 10(2), 306
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--GAMMA IRRADIATION, RAT, EMBRYOLOGY, LACTATE DEHYDROGENASE,
ISOENZYME, LIVER, SPLEEN, HEART
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD70/605004/C01 STEP NO--UR/0205/70/010/002/0306/0306
CIRC ACCESSION NO--AP0139610
UNCLASSIFIED

2/2 024

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0139610

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. LACTIC ACID DEHYDROGENASE
ISOENZYMES WERE ESTD. IN THE LIVER, SPLEEN, AND HEART OF NEWBORN, 10 AND
20 DAY OLD RATS. WHEN MOTHERS WERE IRRADIATED WITH 200 RAD BEFORE
DELIVERY, THEIR OFFSPRING SHOWED FASTER DEVELOPMENT OF THE ISOENZYME
PICTURE RESEMBLING INCREASED AGING RATES. FACILITY: MOSK.
TEKHNOL. INST. MYAS MOLOCH. PROM., MOSCOW, USSR.

UNCLASSIFIED

USSR.

UDC: 620.178.162

BABEY, YU. I., GOLUBETS, V. M., VYGOVSKIY, I. P., RYABOV, B. F., and GNATYSHAK, N. N.

"Effect of White Layer on Wear Resistance of 50X Steel"

Kiev, Fiziko-Khimicheskaya Mekhanika Materialov, Vol 7, No 5, 1971, pp 7-10

Abstract: An experimental investigation of the effect of white layer on the wear resistance of 50X(0.49% C, 0.21% Si, 0.65% Mn; 1% Cr, 0.24% Ni) steel was conducted.

The white layer was formed by turning the specimen journal ring on the lathe, with 88 meter/min cutting speed and 0.15 mm depth of cut, or by means of mechanical-ultrasonic treatment.

Test showed that the wear resistance of the specimens with white layer was equal to the ones, which were quenched at 850°C and drawn at 180°C. The wear of these specimens was about one third of the wear of unimproved specimens. The wear of the bronze and steel bushings rubbing against these specimens was reduced by about the same amount.

The white layer is formed by quenching and drawing due to the heat generated by the cutting tool.

The microradiographic spectral analysis showed that the content of carbon,

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USSR.

BABEY, YU, I., et al., Fiziko-Khimicheskaya Mekhanika Materialov, Vol 7, No 5, 1971, pp 7-10

chrome and other carbide-forming elements is higher in the white layer and lower in the sublayer than in the original metal.

2/2

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1/3 042 UNCLASSIFIED PROCESSING DATE--14 SEPT 70
TITLE--EFFECT OF ULTRASONIC TREATMENT ON THE PHYSICOMECHANICAL PROPERTIES
OF SOME PRECISION ALLOYS -U-
AUTHOR--BABEY, YU.I., YAREMKEVICH, S.K., SHULGA, N.G., VYGOVSKIY, I.P.
COUNTRY OF INFO--USSR
SOURCE--FIZ.-KHIM. MEKH. MATER. 1970, 5(6), 656-60
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--MECHANICAL PROPERTY, ULTRASONIC EFFECT, METAL INTERNAL
FRICTION, MAGNETIC PROPERTY, IRON ALLOY, NICKEL ALLOY, MAGNETIC
MATERIAL, ALUMINUM ALLOY, COBALT ALLOY, THERMOMAGNETIC EFFECT, PRECISION
ALLOY, MAGNETIC FIELD, DISPERSION HARDENING
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAHE--1988/0661 STEP NO--UR/0369/70/005/005/0656/0660
CIRC ACCESSION NO--AP0105639
UNCLASSIFIED

2/3 042

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0105639

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ELEVEN DISPERSION HARDENED, PRECISION ALLOYS Fe-NI-AL-CO (RANGES NI 13.5-19.6, AL 7.0-12.27, CO 12.0-36.5, SI 0.0-0.5, TI 0.24-7.0 OR NB 0.5-0.8 WT. PERCENT, FE REST) WERE STUDIED AS TO THE EFFECT OF ULTRASOUND ON PROPERTIES AND STRUCTURE. ALL SPECIMENS WERE HEATED TO 1250-800DEGREES, HELD FOR 15-20 MIN, AND COOLED TOGETHER WITH THE FURNACE AT 200DEGREES PER HR. THE THERMOMAGNETIC TREATMENT WAS CARRIED OUT BY HEATING IN A BACL SUB2 BATH AT 800-400DEGREES FOR 10 MIN, FURTHER HEATING ALSO IN BACL SUB2 AT 1280DEGREES FOR 10-15 MIN. COOLING IN LOWER TEMP. RANGE AT THE CRIT. RATE 40-60DEGREES PER MIN IN A MAGNETIC FIELD. BEFORE THE ULTRASONIC TREATMENT THE FOLLOWING ALTERNATIVE THERMAL TREATMENTS WERE APPLIED: (1) HEATING TO 1250-800DEGREES, COOLING IN THE LOWER TEMP. RANGE (400-850DEGREES) AT 40-60DEGREES PER MIN AND TEMPERING AT 600DEGREES, (2) STEPWISE HEATING AND COOLING AT CRIT. RATE FROM 1280DEGREES IN A MAGNETIC FIELD, (3) THE ABOVE MENTIONED THERMOMAGNETIC TREATMENT WITH TEMPERING FOR 4 HR AT 600DEGREES, AND (4) STEPWISE HEATING AND COOLING WITH CRIT. RATE IN MAGNETIC FIELD (WITHIN THE REGION OF SOLID SOLN.) WHILE APPLYING ULTRASOUND DURING TEMPERING AT 600DEGREES WITH VARYING TIME PERIODS. THE IRRADM. WITH ULTRASOUND WAS CARRIED OUT AT 18-20 KHZ IN A MAGNETIC FIELD OF 1500-2000 OE. AFTERWARDS, THE MICROSTRUCTURE, MAGNETIC PROPERTIES, SP. ELEC. RESISTANCE, THERMAL EXPANSION, MICROHARDNESS, INTERNAL FRICTION, HEAT COND., AND YOUNG MODULUS WERE DETD. THE ULTRASOUND AFTER TREATMENTS (1) AND (3) HAD NO EFFECT, WHILE TREATMENT (2) AND ULTRASOUND HAD A WEAK EFFECT ON MAGNETIC PROPERTIES.

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UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0105639

ABSTRACT/EXTRACT--TREATMENT (4) WAS MORE EFFECTIVE IN INCREASING THE COERCIVE FORCE AND MAX. MAGNETIC ENERGY BY 25-30PERCENT; HOWEVER, WITH 2 ALLOYS (CONTG. CO 24 AND 35PERCENT) THE MAGNETIC ENERGY AND RESIDUAL INDUCTION DECREASED BY 20-5PERCENT, (WHICH IS EXPLAINED BY THE DISINTEGRATION OF SINGLE DOMAIN STRUCTURE AND ANISOTROPY). THE FAVORABLE ACTION OF ULTRASOUND ON THE OTHER ALLOYS IS EXPLAINED BY THE CYCLIC DEFORMATION OF CRYST. LATTICE, WHICH FACILITATES DIFFUSION; WHILE ACCELERATING THE FORMATION OF SUBMICROSCOPIC PHASES FROM THE SOLID SOLN., THE ULTRASOUND HAD NO EFFECT ON THE COAGULATION RATE.

UNCLASSIFIED

Acc. Nr: **MP0102638**

Ref. Code: **UK 0475**

PRIMARY SOURCE: *Vrachebnoye Delo*, 1970, Nr **3**, pp **123-125**

**BLOOD SERUM SULFHYDRYL GROUPS IN PATIENTS
WITH DIFFUSE TOXIC GOITER**

P. G. Podorozhnyy and V. P. Vygovskiy (Lvov)

Blood serum sulfhydryl groups have been determined by amperometric titration in 95 patients with diffuse toxic goiter and in 25 healthy subjects. Results showed a sharp increase of sulfhydryl groups in these patients.

The data received may not only be of practical value but may also have a theoretical interest in relation to investigation of some pathogenetic sides of diffuse toxic goiter.

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DI 2

USSR

UDC: 8.74

VYKHANDU, L. K.

"Concerning Integrated Systems for Processing Discrete Data"

Tr. Tallin. politekhn. in-ta (Works of Tallin Polytechnical Institute), 1971, A, No 313, pp 3-14 (from RZh-Kibernetika, No 8, Aug 72, Abstract No 8V596)

Translation: The paper describes an approach to organizing integrated systems for processing discrete economic information based on the example of solving statistical problems involving processing of questionnaires. At the same time, a number of auxiliary programs are considered: formation of deciphered questionnaires on magnetic tape, formation of new distinctive features in a questionnaire, conjunction of repeatedly done questionnaires. The principal circuits are given for a discrete information processing system for the Razdan-3 computer. Various input schemes are analyzed: 1) data are punched on tape in M-2 international code. 2) questionnaires are punched in M-2 international code. A fixed number of decimal symbols is assigned to each distinctive feature. An auxiliary data

1/2

USSR

VYKHANDU, L. K., Tr. Tallin. politekhn. in-ta, 1971, A, No 313, pp 3-14

file is used for the characteristic of each distinctive feature. 3) Questionnaires on form-printed punchcards. All distinctive features are arranged in lines. 4) Questionnaires on form-printed punchcards. All distinctive features are arranged in columns. 5) Conventionally punched card for T-5M punch-card equipment. 6) Standard punchcard for the Razdan-3 computer, where a fixed number of decimal symbols is assigned for each distinctive feature. 7) Questionnaires punched on tape in M-2 code. Every value of each distinctive feature is assigned its own code number. 8) If the data have a hierarchical structure, the repeating parts of the data are punched only once. Data files for description of all levels of the hierarchical structure are additionally assigned. The logic of organizing processing of specific problems is discussed: statistical analysis of questionnaires, dispersion analysis, economic computations, data retrieval. V. Mikheyev.

2/2

- 52 -

USSR

UDC 8.74

VYKHANDU, L. K.

"Integrating Systems for Processing Discrete Information"

Tr. Tallin. Politekh. in-ta (Transactions of the Tallin Polytechnical Institute) No 313, 1971 A, pp 3-14 (from RZh-Matematika, No 8, 1972, Abstract No 8V596)

Translation: The author describes an approach to the organization of integrating systems for processing discrete economic information with the example of solutions of statistical problems connected with questionnaire processing. Several service programs are considered: the formation of open questionnaires on magnetic tape, the formation of new symbols in a questionnaire, and the coordination of repeated questionnaires. The basic outlines of the system for processing discrete information for the electronic computer "Razdan-3" are presented. Some read-in variants are analyzed: 1) Data punched on perforated tape in the international M-2 code. A constant quantity of decimal symbols is given for each symbol. Auxiliary information is used for the characteristics of each symbol. 3) Questionnaires on dual perforated cards. All the symbols

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USSR

VYKHANDU, L. K., Tr. Tallin Politekh. in-ta, No 313, 1971, A, pp 3-14

are arranged in columns. 4) Questionnaires on dual perforated cards. All the symbols are arranged in lines. 5) Cards perforated in the usual way for counting-punch machines of the T-5M type. 6) Standard perforated cards for the "Razdan-3" on which a fixed quantity of decimal symbols is given for each symbol. 7) Questionnaires punched on perforated tape in the M-2 code. A coded number is given to each value of every symbol. 8) If the data has a hierarchical structure, the repetitions parts of the data are punched only once. Information describing all levels of the hierarchical structure are given in addition. The logic of the organizing of the processing in specific problems is explained as follows: statistical analysis of the questionnaires, dispersion analysis, economic computations, and information retrieval.

2/2

1/2 021 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--DIFFUSION AND SOLUBILITY OF HYDROGEN IN ORDERING ALLOYS OF THE CU
SUB3 AU TYPE--U-
AUTHOR--VYKHODETS, V.B., GOLTISOV, V.A., GELD, P.V.
COUNTRY OF INFO--USSR
SOURCE--UKRAIN. FIZ. ZHUR. JAN. 1970, 15, (1), 107-110
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--ORDERED ALLOY, COPPER ALLOY, GOLD CONTAINING ALLOY, NICKEL
ALLOY, IRON CONTAINING ALLOY, DIFFUSION COEFFICIENT, HYDROGEN,
SOLUBILITY, METAL CONTAINING GAS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1989/1202 STEP NO--UR/0185/70/015/001/0107/0110
CIRC ACCESSION NO--AP0107678
UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0107678

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DIFFUSION AND DISSOLUTION OF THE CU SUB3 AU AND NI SUB3 FE TYPES ARE DISCUSSED ON THE BASIS OF EXISTING THEORETICAL MODELS AND FRESH EXPERIMENTAL DATA. THEORETICALLY PREDICTED SHARP JUMPS IN THE BROADLY BORNE OUT BY THE EXPERIMENTAL RESULTS, PARTICULARLY IN THE CASE OF NI SUB3 FE. SLIGHT DISCREPANCIES IN THE CASE OF CU SUB3 AU ARE ATTRIBUTED TO THE CONSIDERABLE DIFFERENCES IN THE SIZES OF THE ATOMS INVOLVED. 9 REF.

UNCLASSIFIED

1/2 017
UNCLASSIFIED
PROCESSING DATE--30OCT7
TITLE--USE OF A ROTATING RING DISK ELECTRODE METHOD TO STUDY THE CATHODIC
REDUCTION OF OXYGEN IN DIMETHYLFORMAMIDE SOLUTIONS --U--
AUTHOR--(04)--NEKRASOV, L.N., DUKHANOVA, L.A., DUBROVINA, N.I., VYKHODTSEVA
L.N.
COUNTRY OF INFO--USSR
SOURCE--ELEKTROKHIMIYA 1970, 6(3), 388-90
DATE PUBLISHED--70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ELECTROLYTIC REDUCTION, OXYGEN, FORMIC ACID, AMIDE, GOLD,
METAL ELECTRODE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--2000/0653
STEP NO--UR/0364/70/006/003/0388/0390
CIRC ACCESSION NO--AP0124325
UNCLASSIFIED

2/2 017

UNCLASSIFIED

PROCESSING DATE--30OCT7

CIRC ACCESSION NO--AP0124325

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE PROCESS OF O ELECTROREDN. IN APROTIC MEDIUM WAS STUDIED BY USING THE EXAMPLE OF CATHODIC O REDN. IN HCONME SUB2 SOLNS. NAD A ROTATING RING DISK ELECTRODE AND AMALGAMATED AU. THE SUPPORTING ELECTROLYTES WERE THE ANHYD. SALT ET SUB4 NCL0 SUB4 AT A CONCN. OF 0.1N AS WELL AS NH SUB4 NO SUB3 AT A CONCN. OF 0.5N. THE POLARIZATION CURVE OF O ELECTROREDN. SHOWED 2 WAVES OF SIMILAR HEIGHT, EACH CORRESPONDING TO THE ASSOEN. OF 1 ELECTRON. THE INITIAL STAGE OF THE REACTION INVOLVED THE FORMATION OF A RELATIVELY STABLE MO. O SUB2 PRIME NEGATIVE WITH SIMILAR TO 100PERCENT YIELD. THE NATURE OF THE PROCESSES IN THE RANGE OF THE 2ND WAVE, I.E. IN THE 2ND PHASE OF THE O REDN., WAS NOT DETD. COMPLETELY AND NEEDS ADDNL. STUDIES.

FACILITY: MOSK. GOS. UNIV. IM. LOMONOSOVA, MOSCOW, USSR.

UNCLASSIFIED

Instruments and Equipment

USSR

UDC 612.014.45+612.8

AVIROM, V. M., ADRIANOV, O. S., VYKHODTSEVA, N. I., GAVRILOV, L. R., MERING, T. A., and SIROTYUK, M. G., Institute of Acoustics, Academy of Sciences USSR, and Brain Institute, Academy of Medical Sciences USSR

"Destruction of Deep-Lying Brain Structures With Focused Ultrasound"

Moscow, Zhurnal Vysshey Nervnoy Deyatel'nosti, No 5, 1971, pp 1,110-1,113

Abstract: An apparatus designed to minimize the loss of ultrasonic energy at high frequencies and intensities of ultrasound is described. It consists of an oscillator, ultrasound emitter, universal standard stereotaxic device to hold the animal, and a device to permit ultrasound to be transmitted to the animal's brain. The focusing emitter rests on a concave resonant plate of piezoelectric ceramic 85 mm in diameter with a focal length of 70 mm. Acoustic energy is transmitted from the emitter to the brain through degassed water (or physiological saline). Degassed water is poured into a rubber bottle connected to the frame of the emitter and inot a small funnel attached to the animal's head. The article concludes with a description of the surgical technique recommended for preparing the brains of rabbits and rats prior to ultrasonication.

1/1

Materials

USSR

UDC 666.293.52

VYKHOVANETS, A. F., SAZONETS, N. V., NIKITENKO, L. N. GURSKIY, B. A., KOCHUYEV, YE. S., and GLADUSH, V. M.

"An Enamel for Steel"

USSR Author's Certificate No 366160, Filed 27 Oct 70, Published 16 Jan 73 (from Otkrytiya, Izobreteniya, Promyshlennyye Obratzsy, Tovarnyye Znaki, No 7, Mar(a) 73 Claim No 1488623/29-33)

Translation: An enamel for steel, including SiO_2 , B_2O_3 , Al_2O_3 , TiO_2 , CaO , and Na_2O , distinguished by the fact that in order to increase its acid resistance and heat resistance it additionally contains SrO , Li_2O , Na_2SiF_6 , K_2O , CaF_2 , Co_2O_3 , Ni_2O_3 and Cr_2O_3 in the following ratio of components, weight %: SiO_2 64-67, B_2O_3 1.8-2.7, Al_2O_3 1.0-1.6, TiO_2 3.1-3.6, CaO 3.2-3.7, SrO 0.6-0.9, Na_2O 9.4-10.7, K_2O 3.9-4.5, Li_2O 4.3-4.5, Na_2SiF_6 1.3-2.0, CaF_2 1.7-2.5, Co_2O_3 0.5-0.56, Ni_2O_3 0.4-0.53, Cr_2O_3 0.16-0.25.

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1/2 041

UNCLASSIFIED

PROCESSING DATE--09OCT70

TITLE--THERMOGRAPHIC STUDY IN THE DIAGNOSIS OF SOME INJURIES AND DISEASES
OF THE WEIGHTBEARING LOCOMOTOR APPARATUR -U-
AUTHOR-(02)-GOLDUSHTEYN, A.B., VYKHOVSKAYA, A.G.

COUNTRY OF INFO--USSR

SOURCE--ORTOPEDIYA, TRAVMATOLOGIYA I PROTEZIROVANIYE, 1970, NR 3, PP 46-49

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--THERMOGRAPHIC ANALYSIS, MAN, SKIN EFFECT, IR RADIATION,
MUSCULOSKELETAL DISEASE, INJURY, DIAGNOSTIC METHODS/ (U)TEPLOVISOR IR
RADIOMETER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1983/1430

STEP NO--UR/9115/70/000/003/0046/0049

CIRC ACCESSION NO--AP0054292

UNCLASSIFIED

2/2 041

CIRC ACCESSION NO--AP0054292

UNCLASSIFIED

PROCESSING DATE--09OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PRINCIPLE OF THERMOGRAPHY IS BASED ON DISTANCE, NON CONTACTING DETERMINATION OF TEMPERATURE OF THE SKIN AND UNDERLYING TISSUES. WITH AID OF HOME INFRARED SCANNING RADIOMETER "TEPLOVISOR", A SERIES OF 112 PATIENTS WITH INJURIES AND DISEASES OF THE WEIGHTBEARING LOCOMOTOR APPARATUS HAVE BEEN INVESTIGATED. A MARKED EXCESS OF SKIN TEMPERATURE (INFRARED RADIATION) WAS NOTED OVER THE INJURED PORTION OF THE TRUNK OR EXTREMITY IN COMPARISON WITH THE NORMAL SYMMETRIC ONES. THESE FINDINGS ARE INDICATIVE OF THE DIAGNOSTIC EFFICIENCY OF THERMOGRAPHY. THE DISTINCTIVE FEATURES OF THE NEW METHOD ARE ITS VISUALIZABILITY AND OBJECTIVITY WHICH ARE AN EVIDENCE OF ITS PRACTICAL VALUE. THE ADVANTAGE OF THERMOGRAPHY IS THE POSSIBILITY OF IMMEDIATE INFORMATION, MULTIPLE APPLICATION, COMPLETE SECURITY OF INVESTIGATION. AT THE SAME TIME, THE THERMOGRAPHIC STUDY REQUIRES AN OBLIGATORY CLINICORUENTGENOGRAPHIC CONFIRMATION.

UNCLASSIFIED

USSR

UDC 542.65:546.791.6'171.5

VYKHOVSKIY, D. N., and PETROVA, I. K.

"A New Compound of Uranyl Oxalate with Hydrazine"

Leningrad, Radiokhimiya, Vol XIII, No 3, 1971, pp 470-472

Abstract: Uranyl oxalate in reaction with hydrazine forms a crystalline precipitate upon decantation of the aqueous solutions, containing uranyl oxalate ions and some hydrazine salt. Several preparations of this salt were made with addition of hydrazine and HCl to a solution of uranyl oxalate in ammonium oxalate, or by decantation of aqueous solutions of uranyl chloride and hydrazine with a solution of oxalic acid, the precipitates being washed in a little water, alcohol and ether, and then air-dried. Despite variation in contents of the initial solutions, gravimetric and titration methods indicated a practically invariable formula -- $N_2H_5H(UO_2)_2(C_2O_4)_3 \cdot 4H_2O$ -- for the new compound. Additional data on the weight composition and chemical reactions of this compound are included in the paper.

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- 13 -

USSR

UDC: 531.715.2 531.717.53

SIZONENKO, G. A., BOGRETS, G. N., SHUKIS, Z. E., GOKHBERG, Yu. L., KOLO-
DYAZHNYI, A. P., VYKHIST, N. S., MINAKOV, N. A.

"A Device for Measuring the Thickness of Nonmagnetic Coatings on the Inside
of Pipes"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztzy, Tovarnyye Znaki,
No 7, Mar 72, Author's Certificate No 329373, Division G, filed 25 Mar 70,
published 9 Feb 72, p 151

Translation: This Author's Certificate introduces a device for measuring
the thickness of nonmagnetic coatings on the inside of pipes. The device
contains a micrometer unit, a tubular bar, a movable rod, a force-measuring
spring, and a head with a permanent magnet connected to the movable rod.
The micrometer unit is fastened to the end of the tubular bar which is on
the outside of the pipe to be inspected, and the movable rod is coaxial with
the tubular bar and is coupled to the micrometer unit. The head with perma-
nent magnet is fastened to the end of the tubular bar on the inside of the
pipe to be inspected. As a distinguishing feature of the patent, the device
is designed for improved accuracy in measuring the thickness of coatings on

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SIZONENKO, G. A. et al., USSR Author's Certificate No 329373

the inside of long pipes, and especially those of small cross section. Inside the measurement head is a modular mechanism made up of two rollers wound with a flexible thread fastened by one end to the permanent magnet, and connected by the other end to the force-measurement spring. Also included in the device is a microcontact indicator of the position of the magnet fastened to one of its ends.

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1/2 010 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--SPLITTING OF AN ETHER BOND DURING DIETHYLENE GLYCOL VINYLATION -U-
AUTHOR--ATAVIN, A.S., AMOSOVA, S.V., VYLEGZHANIN, O.N., KEYKO, V.V.,
TROFIMOV, B.A.
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (1), 149-52
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ETHYLENE GLYCOL, CHEMICAL BONDING, ETHER, ETHYLENE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1987/1055 STEP NO--UR/0062/70/000/001/0149/0152
CIRC ACCESSION NO--AP0104453
UNCLASSIFIED

2/2 010

CIRC ACCESSION NO--AP0104453

UNCLASSIFIED

PROCESSING DATE--11SEP70

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. HEATING O(CH SUB2 CH SUB2 OH) SUB2 (I) WITH KOH AND C SUB2 H SUB2 2 HR AT 160DEGREES (17 ATM INITIALLY) GAVE 53PERCENT DIVINYL ETHER 4F THE GLYCOL, B SUB13 89DEGREES, WHICH WITH 1 PERCENT HCL REGENERATED THE PURE GLYCOL, B SUB2 90DEGREES. HEATING I WITH KOH AT 165DEGREES IN C SUB2 H SUB2 (15 ATM INITIALLY) 3 HR GAVE, AFTER CHROMATOG. OF THE MIXT. 1.8PERCENT (CH SUB2 OH) SUB2 IDENTIFIED BY Silylation. Thus, DIETHYLENE GLYCOL IS CLEAVED BY KOH TO (CH SUB2 OH) SUB2 AND THE PROCESS IS ACCELERATED BY THE PRESENCE OF C SUB2 H SUB2. THE EFFECT IS POSSIBLY CAUSED BY CLEAVAGE OF THE ETHER BOND THROUGH ACTION OF THE ETHEREAL O AS A NUCLEOPHILE IN REACTION WITH C SUB2 H SUB2 AND FORMING AN INTERMEDIATE SUCH AS (HOCH SUB2 CH SUB2) SUB2 O PRIME POSITIVE CH:CH PRIME NEGATIVE.

UNCLASSIFIED

USSR

UDC 543.8:632.951

LYALIKOV, YU. S. (Editor-in-Chief), Academician of Academy of Sciences
Moldavian SSR, VAYNTRAUB, F. P., VYLEGZHANINA, G. F., Candidates of Agricultural
Sciences, SISTER, YU. D., Candidate of Chemical Sciences (Editors) Metody
Analiza Pestitsidov (Analysis Methods of Pesticides), Moscow, Izdatel'stvo
Nauka, 1972

Translation: Annotation: This book includes articles presented at the All-
Union Conference on Analysis Methods of Pesticides in Preparations, Food Products,
Soil, and Water.

Many analytical problems of pesticides in commercial products are consid-
ered, including the determination of their concentration in different objects.
The latter is of particular importance for the environment and food products
from the point of view of the sanitary and hygiene engineering.

Different analysis methods of pesticides are suggested, including gas and
thin-layer chromatography, spectrophotometry, and polarography.

The book is intended for researchers, personnel of industrial laboratories,
and sanitary-epidemiological stations.

Foreword: An intensive development of agriculture requires a maximal
decrease of losses caused by insects, diseases, and weeds. In order to meet
these requirements, chemical protection of plants is needed.

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USSR

LYALIKOV, YU. S., et al., Metody Analiza Pestitsidov, Izdatel'stvo Nauka, 1972

However, a wide application of pesticides and herbicides causes many unwanted aftereffects. Some compounds, chiefly the chlorine-containing organic compounds (DDT, HCH [hexachlorocyclohexane], heptachlor, and others) are preserved for a long time in plants in a crop. They are also capable of accumulating in organisms of man and animals in quantities dangerous for health. Other compounds (derivatives of carbamic, thio- and dithiophosphoric acids) are highly toxic during their application and they are capable of penetrating the plant and animal organisms and migrate in plants.

Thorough studies must be conducted before wide application of effective compounds. Research scientists of ministries of agriculture, health, and chemical industry are working on problems to find new low-toxic and selective compounds, to establish acceptable residue doses of pesticides in different products of animal and plant origin, and to investigate their behavior in the biological materials.

Solution of the majority of these problems requires the use of highly sensitive and specific analytical methods.

A development of these methods is complicated by the presence of high amounts of the coextractive substances together with the micro-quantities of active substances in samples subjected to analysis. This requires the use of the newest analytical instruments.

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USSR

LYALIKOV, YU. S., et al., Metody Analiza Pestitsidov, Izdatel'stvo Nauka, 1972

This collection of conferences papers on analysis of pesticides is the first attempt to put together the most widely used methods for the analysis of insecticides, fungicides, and herbicides.

The authors of papers in this book have used extensively the thin-layer chromatography, colorimetry, spectrophotometry in visible, ultraviolet, and infrared spectral regions, polarography, and gas chromatography for the analysis of these compounds. Gas chromatography makes it possible to increase considerably the sensitivity of analytical methods.

Articles published in this book will be useful for many analytical chemists working in cooresponding laboratories.

The editors thank K. F. Novikova, S. V. Makarova, and G. S. Supin for their help during the collection of materials.

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USSR

LYALIKOV, YU. S., et al., Metody Analiza Pestitsidov, Izdatel'stvo Nauka, 1972

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USSR

UDC: 539.163.546.657

BUTSEV, V. S., VYLOV, Ts., GROMOV, K. Ya., KALINNIKOV, V. G., Joint Institute of Nuclear Research

"Investigation of the Decay of Neodymium and Praseodymium Nuclides With Mass Number $A = 136$ "

Moscow, Izvestiya Akademii Nauk SSSR: Seriya Fizicheskaya, Vol 37, No 8, Aug 73, pp 1581-1589

Abstract: The paper investigates the chain decay $^{136}\text{Nd} \rightarrow ^{136}\text{Pr} \rightarrow ^{136}\text{Ce}$. About 100 new γ -transitions are observed in the decay of ^{136}Nd and ^{136}Pr . Types of multipole orders are determined for a number of these transitions. A decay scheme is proposed for the first time for ^{136}Nd (55.0 ± 1.5 min), and a considerable augmentation is made to the decay scheme of ^{136}Pr (12.9 ± 0.4 min). The authors thank V. P. Afanas'yev, I. I. Gromova, N. A. Lebedev, E. Kherrmann, Kh Tyrroff, A. A. Aleksandrov, V. M. Mosyazh, Ya. Polakhova, V. Bonova, and M. Nenova for considerable interest in the work.

1/1

USSR

UDC: None

ALEKSANDROV, V. S., BUTTSEV, V. S., VYLOV, Ts., GROMOV, K. Ya.,
and KALINNIKOV, V. G.

"Determining the Energy of the $^{134}\text{Ce} \xrightarrow{\epsilon} ^{134}\text{La}$ and $^{160}\text{Er} \xrightarrow{\epsilon} ^{160}\text{Ho}$
Decays"

Moscow, Izvestiya Akademii Nauk SSSR--Seriya Fizicheskaya, No 5,
1973, pp 948-952

Abstract: Using experimental and theoretical data from earlier papers, the authors of the present article determine the energy arising from the decay of $^{134}\text{Ce} \xrightarrow{\epsilon} ^{134}\text{La}$ and $^{160}\text{Er} \xrightarrow{\epsilon} ^{160}\text{Ho}$. The method of the determination is illustrated by the example of the latter decay, where the formula for the number of x-ray quanta of the K series for Ho per 100 decays of ^{160}Er during a specified time interval, and the formula for the number of x-ray quanta of the K series for Dy per 100 δ decays of ^{160}Ho over the same time interval, are used. The experiments through which the data were obtained are briefly described, and diagrams illustrating the systems of the decays are given. Plots of the x-ray radiation spectra for both
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ALEKSANDROV, V. S., et al., Izvestiya Akademii Nauk SSSR--Seriya Fizicheskaya, No 5, 1973, pp 948-952

types of decay are also given. The authors thank N. A. Lebedev, V. P. Afanas'yev and I. I. Gromov for preparing the specimens used in the experiments, and Ye. P. Grigor'yev for his interest in the work. It is noted that the method here given is practically unique for this type of decay chain.

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- 45 -

USSR

UDC: 539.184

VYLOV, Ts.; DZHELEPOV, B. S.; IVANOV, R. B.; MIKHAYLOVA, M. A.; SERGEYEV, V. O.

"Relative Intensities of X-Rays of the K-Series of Elements With $Z = 79-88$ "

Moscow, Izvestiya Akademii Nauk SSSR: Seriya Fizicheskaya, Vol 26, No 10, Oct 72, pp 2136-2138

Abstract: The authors measure the relative intensities of x-ray lines of ^{79}Au , ^{80}Hg , ^{81}Tl , ^{82}Pb , ^{84}Po , ^{85}At , ^{86}Rn , ^{87}Fr , and ^{88}Ra . The measurements were made on a gamma-spectrometer with a plane-parallel Ge(Li) -detector. The diameter of the detector was 10 mm, and the thickness of the sensitive region was 6 mm. The input window was made from beryllium with 250- μm thickness. The resolution in the investigated energy region (80 keV) was about 850 keV. The mean weighted values of the ratios $K\alpha_2/K\alpha_1$, $K\beta_1'/K\alpha_1$, and $K\beta_2'/K\alpha_1$ are tabulated. The authors thank L. G. Tsaritsyna and A. V. Mozhukhin for preparing the sources.

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USSR

UDC: 539.163.546.663

VYLOV, Ts., GROMOV, K. Ya., GROMOVA, I. I., ISKHAKOV, G. I., KUZNETSOV, V. V., KUZNETSOVA, M. Ya., POTEPA, A. V., FOMINYKH, M. I.

"Investigation of the Decay of ^{148}Tb and ^{150}Tb . Part II. $\gamma\gamma$ -Coincidence. Decay Schemes of ^{148}Tb and ^{150}Tb "

Moscow, Izvestiya Akademii Nauk SSSR: Seriya Fizicheskaya, Vol 37, No 1, Jan 73, pp 48-52

Abstract: The paper presents studies of $\gamma\gamma$ -coincidence spectra of terbium isotopes ^{148}Tb and ^{150}Tb with their decay schemes and a comparison of the analogous excited states of ^{148}Gd and ^{150}Gd nuclei and the neighboring nuclei of samarium and neodymium. If it is assumed that the odd 65-th proton and 83-d (85-th) neutron in the nuclei of ^{148}Tb and ^{150}Tb are on shells $d_{3/2}$ and $f_{7/2}$ respectively, then according to the shell model the ground state of ^{150}Tb has the configuration $\{p(d_{3/2})^1 n(f_{7/2})^3\}$, while that of ^{148}Tb is $\{p(d_{3/2})^1 n(f_{7/2})^1\}$. These configurations allow values of the I^π -ground states of these isotopes of 5^- , 4^- , 3^- , and 2^- . From the decay schemes of these nuclei and the values of $\log ft$, it may be concluded that the spin and parity of the ground states of these isotopes must be 2^- .

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172 024 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--EFFECT OF BETA PHENYL BETA ALANINE ON BIOSYNTHESIS OF GRAMICIDIN C
BY BACILLUS BREVIS VAR. G. B. -U-
AUTHOR--(031)-VYPIYACH, A.N., YEGOROV, N.S., ZHARIKOVA, G.G.
COUNTRY OF INFO--USSR
SOURCE--ANTIBIOTIKI, 1970, VOL 15, NR 5, PP 392-395
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--ALANINE, BIOSYNTHESIS, GLUCOSE, CULTURE MEDIUM, AMINO ACID,
YEAST, ANTIBIOTIC, PEPTIDE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1994/1139 STEP NO--UR/0297/70/015/005/0392/0395
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PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0115158
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. ADDITION OF BETA PHENYL BETA ALANINE IN AN AMOUNT OF 100-600 MG PER CENT TO SYNTHETIC MEDIA WITH GLUCOSE RESULTED IN COMPLETE INHIBITION OF GRAMICIDIN C BIOSYNTHESIS INDEPENDANT OF THE PRESENCE OR ABSENCE OF THE AMINO ACID IN THE SEED MEDIUM. THE CULTURE GROWTH AND SPORULATION WERE IN BOTH CASES THE SAME. ON CAZEIN YEAST MEDIA COMPLETE INHIBITION OF GRAMICIDIN BIOSYNTHESIS WAS NOT OBSERVED. HOWEVER, THE EFFECT OF THE SEED MATERIAL ON INHIBITION OF GRAMICIDIN C BIOSYNTHESIS IN MEDIA CONTAINING BETA PHENYL BETA ALANINE WAS EVIDENT. CAZEIN YEAST MEDIA RE SUFFICIENTLY RICH IN AMINO ACIDS AND OTHER ORGANIC COMPOUNDS AND THE PRESENCE OF BETA PHENYL BETA ALANINE IN THEM DID NOT IMPAIRE COMPLETELY THE PROCESS OF GRAMICIDIN BIOSYNTHESIS. INHIBITION WAS OBSERVED ONLY AT HIGH CONCENTRATIONS OF THE AMINO ACID. IN SYNTHETIC MEDIA CONTAINING NO SIGNIFICANT AMOUNTS OR NUMBERS OF ORGANIC COMPOUNDS BETA PHENYL BETA ALANINE ACTIVELY PARTICIPATED IN CELL METABOLISM AND BLOCKED CERTAIN STAGES OF BIOSYNTHESIS OF GRAMICIDIN C POLYPEPTIDE. FACILITY:
MOSCOW STATE UNIVERSITY.

UNCLASSIFIED

1/2 018
UNCLASSIFIED
TITLE--FREE AMINO ACIDS AND GRAMICIDIN S CONTENT DURING SPORE GERMINATION
IN THE R VARIANT OF BAC. BREVIS -U-
AUTHOR-[03]-YEGOROV, N.S., VYPIYACH, A.N., ZHARIKOVA, G.G.
PROCESSING DATE--18SEP70
COUNTRY OF INFO--USSR
SOURCE--MIKROBIOLOGIYA, 1970, VOL 39, NR 2, PP 331-336
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--BACILIUS, AMINO ACID, BACTERIAL SPORE,
ANTIBIOTIC/(U)GRAMICIDIN S ANTIBIOTIC
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1985/0396
STEP NO--UR/0220/70/039/002/0331/0336
CIRC ACCESSION NO--AP0100882
UNCLASSIFIED

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PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0100882

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. GRAMICIDIN S, SYNTHETIZED BY THE VEGETATIVE CELLS OF THE R VARIANT OF BAC. BREVIS VAR. G 8, WAS TRANSFERRED INTO SPORES DURING SPORE FORMATION. ITS CONCENTRATION DECREASED DURING SPORE GERMINATION AND AGAIN INCREASED WITH THE FORMATION OF THE VEGETATIVE CELLS. THE ANTIBIOTIC WAS SUPPOSED TO PLAY A CERTAIN ROLE IN THE LIFE ACTIVITY OF THE ORGANISM. DURING SPORE GERMINATION GRAMICIDIN S WAS, PROBABLY, DECOMPOSED TO AMINO ACIDS WHICH PARTICIPATED IN THE METABOLISM OF THE CELL. GRAMICIDIN S WAS NOT FOUND IN THE CULTURAL BROTH OF GERMINATING SPORES BY THE BIOLOGICAL METHOD, WHILE ALL 5 AMINO ACIDS COMPOSING THE MOLECULE OF GRAMICIDINE S, WERE REGISTERED THERE IN A FREE STATE.

UNCLASSIFIED

USSR

UDC 542.91:547.1'118

ARBUZOV, B. A., MUSLINKIN, A. A., VIZEL', A. O., KOVALENKO, V. I., VYRINA, N. N., and KAPUSTINA, N. M., Institute of Organic and Physical Chemistry imeni A. Ye. Arbuzov, Academy of Sciences USSR

"Phospholene Glycolacrylates and Some of Their α -Substituted Analogs"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 8, Aug 73, pp 1828-1833

Abstract: Experimental results are reported on the synthesis of new acrylic derivatives containing organophosphoric heteroring -- phospholeneglycolacrylates and some of their α -substituted analogs. These products were obtained by reacting 1-chloro-1-oxophospholenes with glycolmonoacrylate and α -substituted acrylates in inert organic solvents, in presence of triethylamine as an acceptor of HCl. Several synthetic routes have been proposed for the synthesis of phospholeneglycol- α -fluoroacrylates.

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1/2 007 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--CHARACTERISTICS OF PHOSPHORITES OF THE KRASNOYARSK REGION -U-
AUTHOR--VYRUCHEK, A.A. ✓
COUNTRY OF INFO--USSR
SOURCE--KHIM. SEL. KHOZ. 1970, 8(2), 107-9
DATE PUBLISHED-----70
SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY, AGRICULTURE
TOPIC TAGS--FLUORIDE, CHEMICAL FERTILIZER, PHOSPHORUS COMPOUND
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FAME--1990/1309 STEP NO--UR/0344/70/008/002/0107/0109
CIRC ACCESSION NO--AP0109393
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PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0109393

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT.

PHOSPHORITES FROM VARIOUS

FORMATIONS OF THE KRASNOYAKSK REGION WERE GENERALLY SAID. WITH F, AND

THEIR PROPERTIES WERE SIMILAR TO THOSE OF FLUOROAPATITE. THEIR

APPLICATION AS FERTILIZERS IS DISCUSSED.

FACILITY: KRASNOYARSK,

ARGOKHIM. LAB., KRASNOYARSK, USSR.

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